Currently pending claims of your application

1. A method of establishing a network resources reservation for an anticipated traffic flow along a path in a network between an anticipated source and an anticipated receiver of the traffic flow, wherein the anticipated receiver otherwise cannot facilitate establishing the network resources reservation, the method comprising the steps of:

storing, at the proxy node, policy information defining whether the proxy node should initiate network resources reservations for particular traffic flows;

detecting a first RSVP Path message associated with the anticipated receiver of the anticipated traffic flow at a router, acting as a proxy node, located within the path;

determining, at the proxy node and based on the policy information stored at the proxy node and without receiving the policy information from a policy server residing on the network, whether to establish the network resources reservation;

generating, at the proxy node, an RESV message to reserve network resources for the anticipated traffic flow;

communicating the RESV message to the anticipated source of the anticipated traffic flow;

wherein the step of determining, at the proxy node, whether to establish the network resources reservation includes the steps of:

determining one or more network parameter values associated with the anticipated traffic flow;

determining one or more transport parameter values associated with the anticipated traffic flow;

determining next and previous hop parameter values associated with the anticipated traffic flow; and

correlating at least one of the ascertained network parameter, transport parameter, next hop parameter, and previous hop parameter values with information defining a relationship between them and whether a RESV message is desired.

2. A method as recited in claim 1, further comprising the step of determining one or more device and traffic parameter values associated with the anticipated traffic flow, and wherein the step of generating the RESV message comprises the step of generating the RESV message based on at least one of the device and traffic parameter values.

3. (Cancelled).

4. A method as recited in claim 1, further comprising the step of, concurrently with the generating and communicating steps, forwarding a second RSVP Path message to one or more devices that are along the anticipated path and that are between the proxy node and the anticipated receiver, wherein the second RSVP Path message defines a different set of traffic characteristics for the flow initiated by the sender than the first RSVP message.

5. A method as recited in claim 1, wherein determining the network parameter values and ascertaining the transport parameter values includes the steps of determining at least one of the source and receiver IP addresses, source and receiver port numbers, and transport protocol based on values carried in objects in the first RSVP Path message.

6. A method as recited in claim 1, wherein determining the anticipated traffic flow characteristics includes determining at least one of the rate and size of packets associated with the anticipated traffic flow.

7. A method as recited in claim 1, further comprising the steps of extracting one or more additional anticipated traffic flow attributes from the first RSVP Path message.

8. A method as recited in claim 7, wherein the anticipated receiver is an IP phone, and further comprising the step of determining at least one quality of service parameter associated with the anticipated traffic flow.

9. (Canceled)

10. A method as recited in claim 1, wherein the step of detecting an RSVP Path message comprises the step of detecting the first RSVP Path message associated with the anticipated receiver of the anticipated traffic flow at a proxy node that is logically positioned adjacent to the path.

11. A computer readable medium comprising one or more sequences of instructions for facilitating an RSVP reservation process, for an anticipated traffic flow anticipated to be received by an anticipated receiver that cannot facilitate an RSVP reservation process for the anticipated traffic flow, wherein when the instructions are executed by one or more processors, the instructions cause the one or more processors to carry out the steps of:
storing, at the proxy node, policy information defining whether the proxy node should initiate network resources reservations for particular traffic flows;
detecting a first RSVP Path message associated with the anticipated receiver of the anticipated traffic flow at a router, acting as a proxy node, located within the path;
determining, at the proxy node and based on the policy information stored at the proxy node and without receiving the policy information from a policy server residing on the network, whether to establish the network resources reservation;
generating, at the proxy node, an RESV message to reserve network resources for the anticipated traffic flow;
communicating the RESV message to the anticipated source of the anticipated traffic flow;
wherein the step of determining, at the proxy node, whether to establish the network resources reservation includes the steps of:
determining one or more network parameter values associated with the anticipated traffic flow;
determining one or more transport parameter values associated with the anticipated traffic flow;

determining next and previous hop parameter values associated with the anticipated traffic flow; and

correlating at least one of the ascertained network parameter, transport parameter, next hop parameter, and previous hop parameter values with information defining a relationship between them and whether a RESV message is desired.

12. A computer-readable medium as recited in claim 11, further comprising the step of determining one or more device and traffic parameter values associated with the anticipated traffic flow, and wherein the step of generating the RESV message comprises the step of generating the RESV message based on at least one of the device and traffic parameter values.

13. (Cancelled).

14. A computer-readable medium as recited in claim 11,

further comprising the steps of, concurrently with the generating and communicating steps, forwarding a second RSVP Path message to one or more devices that are along the anticipated path and that are between the proxy node and the anticipated receiver, wherein the second RSVP Path message defines a different set of traffic characteristics for the flow initiated by the sender than the first RSVP message.

15. A computer-readable medium as recited in claim 11, wherein determining the network parameter values and ascertaining the transport parameter values includes the steps of determining at least one of the source and receiver IP addresses, source and receiver port numbers, and transport protocol based on values carried in objects in the first RSVP Path message.

16. A computer-readable medium as recited in claim 11, wherein determining the anticipated traffic flow characteristics includes determining at least one of the rate and size of packets associated with the anticipated traffic flow.

17. A computer-readable medium as recited in claim 11, further comprising the steps of extracting one or more additional anticipated traffic flow attributes from the first RSVP Path message.

18. A computer-readable medium as recited in claim 17, wherein the anticipated receiver is an IP phone, and further comprising the step of determining at least one quality of service parameter associated with the anticipated traffic flow.

19. (Canceled)

20. A computer-readable medium as recited in claim 11, wherein the step of detecting an RSVP Path message comprises the step of detecting the first RSVP Path message associated with the anticipated receiver of the anticipated traffic flow at a proxy node that is logically positioned adjacent to the path.

21. A system for establishing a network resources reservation for an anticipated traffic flow along a path in a network between an anticipated source and an anticipated receiver of the traffic flow, wherein the anticipated receiver otherwise cannot facilitate establishing the network resources reservation, the system comprising:

means for storing, at the proxy node, policy information defining whether the proxy node should initiate network resources reservations for particular traffic flows;

means for detecting a first RSVP Path message associated with the anticipated receiver of the anticipated traffic flow at a router, acting as a proxy node, located within the path;

means for determining, at the proxy node and based on the policy information stored at the proxy node and without receiving the policy information from a policy server residing on the network, whether to establish the network resources reservation;

means for generating, at the proxy node, an RESV message to reserve network resources for the anticipated traffic flow;

means for communicating the RESV message to the anticipated source of the anticipated traffic flow; and

wherein the means for determining, at the proxy node, whether to establish the network resources reservation includes:

means for determining one or more network parameter values associated with the anticipated traffic flow;

means for determining one or more transport parameter values associated with the anticipated traffic flow;

means for determining next and previous hop parameter values associated with the anticipated traffic flow; and

means for correlating at least one of the ascertained network parameter, transport parameter, next hop parameter, and previous hop parameter values with information defining a relationship between them and whether a RESV message is desired.

22. A network device that can establish a network resources reservation for an anticipated traffic flow along a path in a network between an anticipated source and an anticipated receiver of the traffic flow, wherein the anticipated receiver otherwise cannot facilitate establishing the network resources reservation, the network device comprising:

a network interface;

a processor coupled to the network interface and receiving network messages from the network through the network interface;

a computer-readable medium comprising one or more stored sequences which, when executed by the processor, cause the processor to carry out the steps of:

storing, at the proxy node, policy information defining whether the proxy node should initiate network resources reservations for particular traffic flows;

detecting a first RSVP Path message associated with the anticipated receiver of the anticipated traffic flow at a router, acting as a proxy node, located within the path;

determining, at the proxy node and based on the policy information stored at the proxy node and without receiving the policy information from a policy

server residing on the network, whether to establish the network resources reservation;

generating, at the proxy node, an RESV message to reserve network resources for the anticipated traffic flow;

communicating the RESV message to the anticipated source of the anticipated traffic flow; and

wherein the step of determining, at the proxy node, whether to establish the network resources reservation comprises the steps of:

determining one or more network parameter values associated with the anticipated traffic flow;

determining one or more transport parameter values associated with the anticipated traffic flow;

determining next and previous hop parameter values associated with the anticipated traffic flow; and

correlating at least one of the ascertained network parameter, transport parameter, next hop parameter, and previous hop parameter values with information defining a relationship between them and whether a RESV message is desired.

23. A system as recited in claim 21, further comprising means for determining one or more device and traffic parameter values associated with the anticipated traffic flow, and wherein the means for generating the RESV message comprises means for generating the RESV message based on at least one of the device and traffic parameter values.

24. (Cancelled).

25. A system as recited in claim 21,

further comprising means for forwarding, concurrently with operation of the means for generating and the means for communicating, a second RSVP Path message to one or more devices that are along the anticipated path and that are between the proxy node and the anticipated receiver, wherein the second RSVP Path message

defines a different set of traffic characteristics for the flow initiated by the sender than the first RSVP message.

26. A system as recited in claim 24, wherein the means for determining the network parameter values and ascertaining the transport parameter values includes means for determining at least one of the source and receiver IP addresses, source and receiver port numbers, and transport protocol based on values carried in objects in the first RSVP Path message.

27. A system as recited in claim 24, wherein the means for determining the anticipated traffic flow characteristics includes means for determining at least one of the rate and size of packets associated with the anticipated traffic flow.

28. A system as recited in claim 24, further comprising means for extracting one or more additional anticipated traffic flow attributes from the first RSVP Path message.

29. A system as recited in claim 27, wherein the anticipated receiver is an IP phone, and further comprising means for determining at least one quality of service parameter associated with the anticipated traffic flow.

30. A system as recited in claim 21, wherein the means for detecting an RSVP Path message comprises means for detecting a first RSVP Path message associated with the anticipated receiver of the anticipated traffic flow at a proxy node that is logically positioned adjacent to the path.

31. A network device as recited in claim 22, wherein the one or more stored sequences, when executed by the processor, cause the processor to further carry out the step of determining one or more device and traffic parameter values associated with the anticipated traffic flow, and wherein the step of generating the RESV message comprises the step of

generating the RESV message based on at least one of the device and traffic parameter values.

32. (Cancelled).

33. A network device as recited in claim 22,
further comprising instructions for performing the step of, concurrently with the generating and communicating steps, forwarding a second RSVP Path message to one or more devices that are along the anticipated path and that are between the proxy node and the anticipated receiver, wherein the second RSVP Path message defines a different set of traffic characteristics for the flow initiated by the sender than the first RSVP message.

34. A network device as recited in claim 22, wherein determining the network parameter values and ascertaining the transport parameter values includes the steps of determining at least one of the source and receiver IP addresses, source and receiver port numbers, and transport protocol based on values carried in objects in the first RSVP Path message.

35. A network device as recited in claim 22, wherein determining the anticipated traffic flow characteristics includes determining at least one of the rate and size of packets associated with the anticipated traffic flow.

36. A network device as recited in claim 22, wherein the one or more stored sequences, when executed by the processor, cause the processor to further carry out the step of extracting one or more additional anticipated traffic flow attributes from the RSVP Path message.

37. A network device as recited in claim 36, wherein the anticipated receiver is an IP phone, and wherein the one or more stored sequences, when executed by the processor, cause the processor to further carry out the step of determining at least one quality of service parameter associated with the anticipated traffic flow.

38. A network device as recited in claim 22, wherein the step of detecting an RSVP Path message comprises the step of detecting the first RSVP Path message associated with the anticipated receiver of the anticipated traffic flow at a proxy node that is logically positioned adjacent to the path.